

THE FIRST RECORDS OF *ERISTALIS PICEA* (DIPTERA: SYRPHIDAE) FROM UKRAINE AND COMPARISON WITH *E. OBSCURA*

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Prokhorov, A. V. & Popov, G. V. The first records of *Eristalis picea* (Diptera: Syrphidae) from Ukraine and comparison with *E. obscura*.

Summary. The hoverfly *Eristalis picea* (Fallén, 1817) is recorded in Ukraine for the first time. Distribution of this species in Europe is considered, its comparison with close *E. obscura* Loew, 1866 is provided. Updated key to distinguish both species is offered.

Key words: Diptera, Syrphidae, *Eristalis picea*, *Eristalis obscura*, Ukraine.

Прохоров, О. В. і Попов, Г. В. Перші знахідки *Eristalis picea* (Diptera: Syrphidae) в Україні та порівняння його з *E. obscura*.

Резюме. Муху-повисюху *Eristalis picea* (Fallén, 1817) вперше відмічено в Україні. Розглянуто поширення виду в Європі, проведено порівняння цього виду з близьким *Eristalis obscura* Loew, 1866. Наведено оновлений ключ для розрізнення цих видів.

Ключові слова: Diptera, Syrphidae, *Eristalis picea*, *Eristalis obscura*, Україна.

Прохоров, А. В. и Попов, Г. В. Первые находки *Eristalis picea* (Diptera: Syrphidae) в Украине и сравнение его с *E. obscura*.

Резюме. Муха-журчалка *Eristalis picea* (Fallén, 1817) впервые отмечена в Украине. Рассмотрено распространение вида в Европе, проведено его сравнение с близким *Eristalis obscura* Loew, 1866. Приведен обновленный ключ для разделения этих видов.

Ключевые слова: Diptera, Syrphidae, *Eristalis picea*, *Eristalis obscura*, Украина.

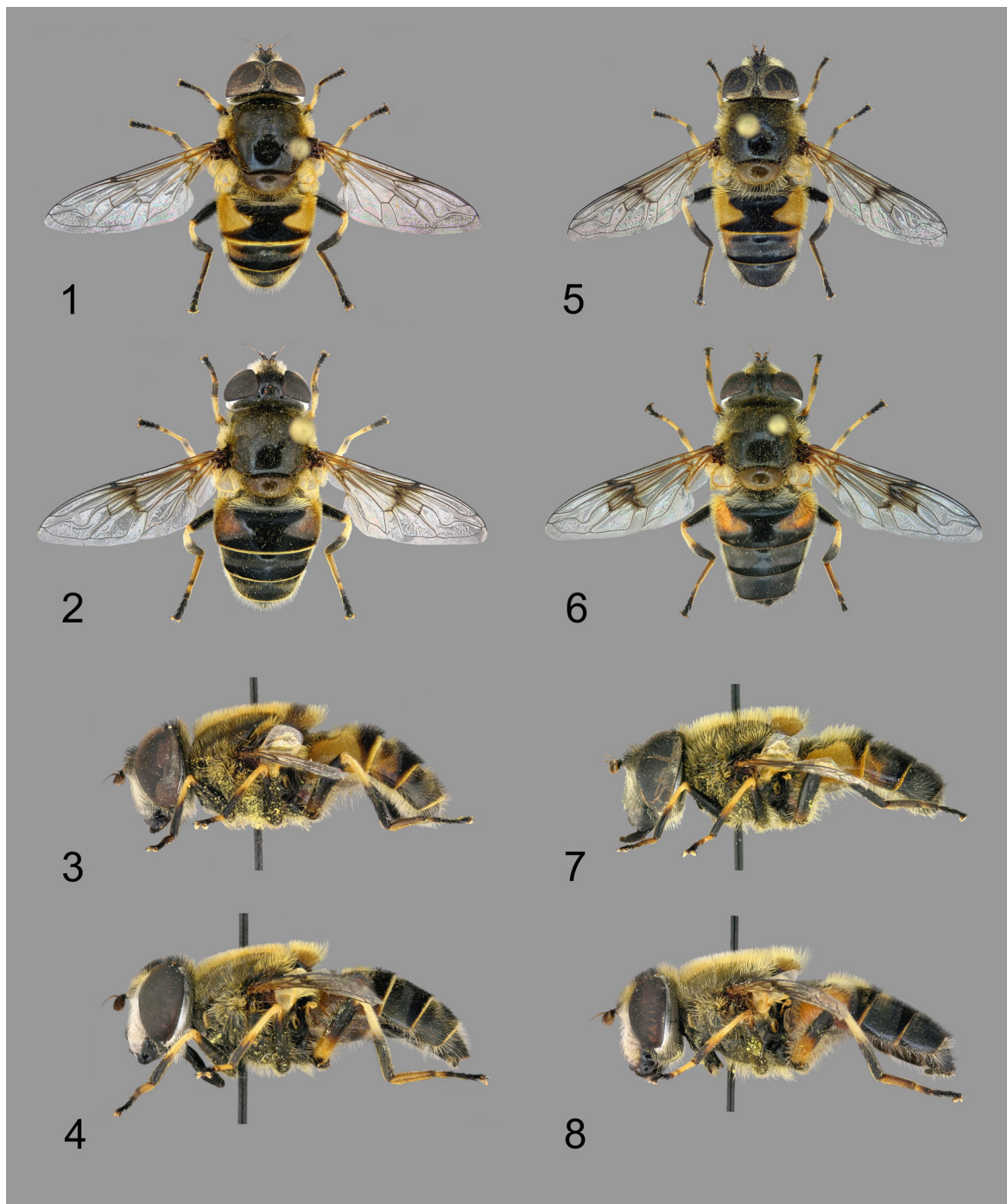
Introduction

The genus *Eristalis* in Europe consist of 21 species (Speight, 2016). In Ukraine 16 species of *Eristalis* are registered (unpublished data of authors). Among them there are species that are difficult to distinguish one from another. For example, *Eristalis picea* (Fallén, 1817) and *Eristalis obscura* Loew, 1866 are very similar.

The material collected in Ukraine and Russia allowed us to supplement an information on species distribution and update the key for their identification.

Material and methods

The photographs were made using a Canon Power Shot A 640 camera, mounted on Carl Zeiss Stemi 2000 binocular microscope, and subsequently enhanced with Adobe Photoshop CS6 and Helicon Focus (version 6.0.18) software packages. On photos are represented the specimens of males from Ukraine and the specimens of females from Russia. All specimens are kept in the collection of the I. I. Schmalhausen Institute of Zoology, National Academy of Sciences, Kyiv (Ukraine). In synonymy we follow Hippa et al. (2001, 2009).



Figs 1–8. *Eristalis obscura* (figs 1–4) and *E. picea* (figs 5–8): 1, 5, — dorsal view of males, 2, 6 — females; 3, 7 — lateral view of males, 4, 8 — females.

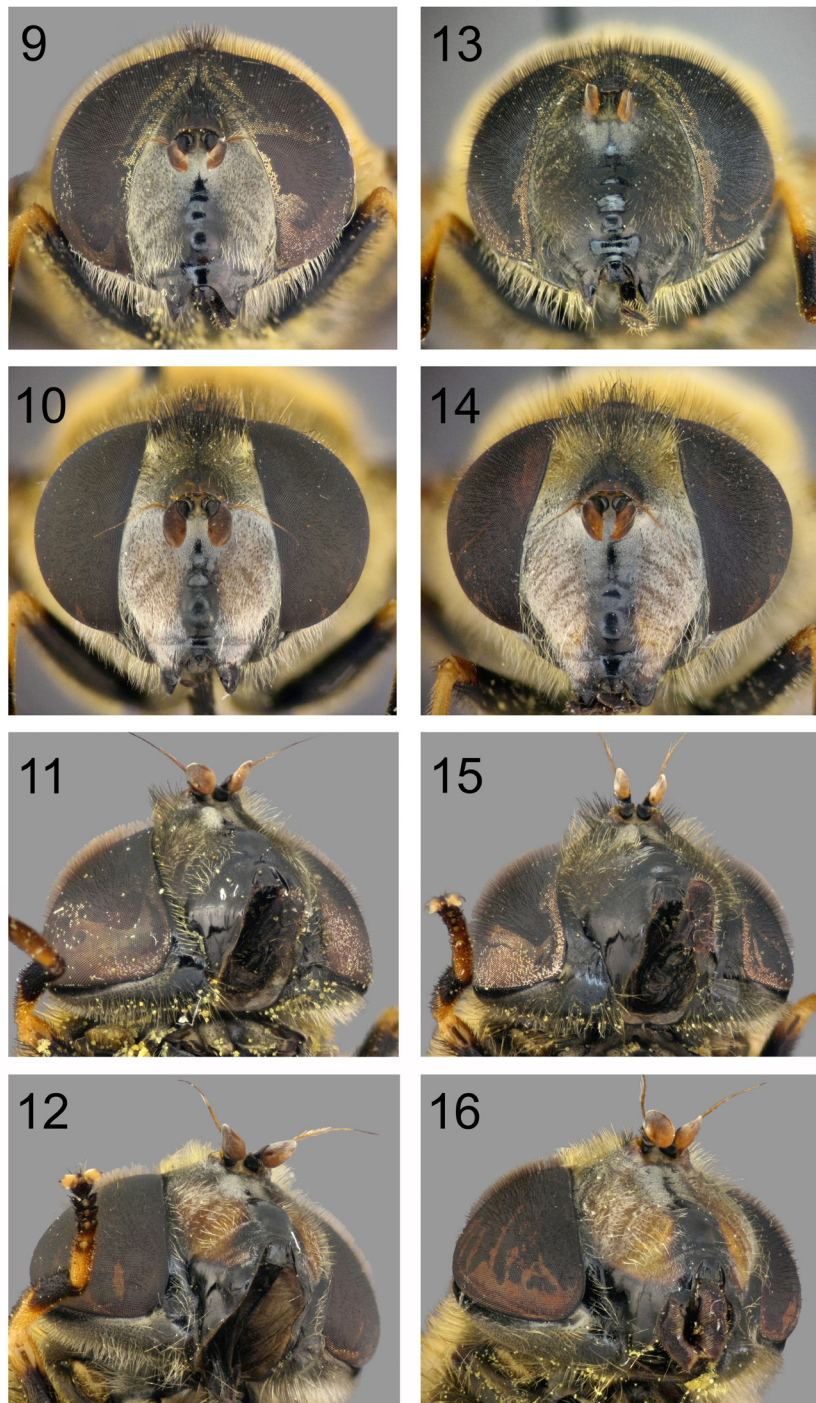
Results

Eristalis (Eoseristalis) obscura Loew, 1866 (figs 1–4, 9–12, 17)

= *pseudorupium* Kanervo, 1938 (as var. of *E. vitripennis* sensu Kanervo); = *beltrami* Telford, 1970; = *vitripennis* auct. nec Strobl, 1892.

Anikina, 1965: 70; 1966: 147 (*vitripennis*) [Zakarpattia]; Stackelberg, 1970: 75 (*vitripennis*) [Ukraine]; Tanska, 1992: 34 (*vitripennis*) [Cherkasy Region]; Lezhenina, 1993: 62 (*vitripennis*) [left-bank Ukraine, Kharkiv Region]; Popov, 1994: 77 (as “*E. vitripennis*” erroneously, = *E. nemorum*) [Donetsk Region].

Material examined. Ukraine: Zhytomir Reg.: Bila Krynytsia env., 50.65N 29.46E, Teteriv River floodplain, 31.05.2015, 1 ♀; Kyiv Reg.: Potashnia env., 50.71N 29.74E, Tal River floodplain, 21.05.2015, 2 ♂,



Figs 9–16. *Eristalis obscura* (figs 9–12) and *E. picea* (figs 13–16) heads: 9, 13 — face of males, front view, 10, 14 — females; 11, 15 — genae of males, 12, 16 — genae of females.

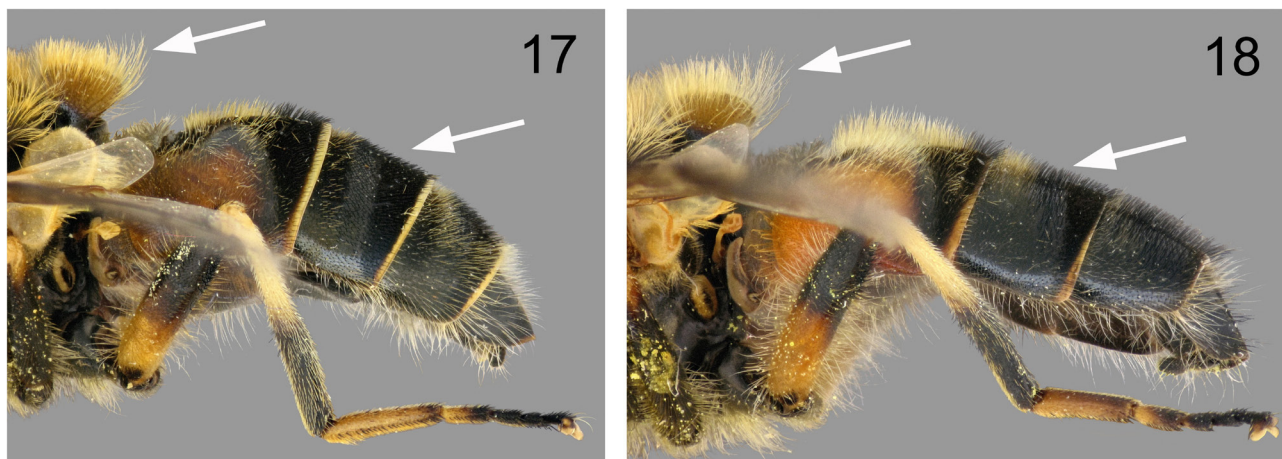
5 ♀ (A. Prokhorov leg.); Kyiv: Irpin env.: 50.50N 30.28E, Lyubka River floodplain, 31.05.2003, 2 ♀ (G. Popov); *ibid.*, edge of the mixed forest along railway, on flowers of *Physocarpus opulifolia*, 3.06.2015, 1 ♂, 3 ♀, 2.06.2016, 2 ♂, 3 ♀; *ibid.*, road in mixed forest, 5.05.2016, 1 ♀; Lisnyky env., 50.29N 30.55E, glade in deciduous forest, 17.08.2017, 1 ♂, 1 ♀ (A. Prokhorov leg.).

Additional material. Russia: Moscow Reg.: Tabolovo env., 55.9N 36.0E, edge of mixed forest, 6.08.2015, 1 ♂, 1 ♀, 19.08.2015, 1 ♀, 21.08.2015, 1 ♀, 14.06.2016, 2 ♂, 2 ♀, 19.06.2016, 1 ♂, 1 ♀, 23.06.2016, 1 ♂, 2 ♀, 25.06.2016, 1 ♂ (A. Prokhorov leg.).

***Eristalis (Eoseristalis) picea* (Fallén, 1817)
(figs 5–8, 13–16, 18)**

= *fennica* Kanervo, 1938 (as var. of *E. vitripennis* sensu Kanervo)

Material examined. Ukraine: Zakarpattia Reg.: Kamianytsia env., Uzh River valley (left bank), 48.70N 22.43E, 6.05.2017, 1 ♂ (G. Popov leg.); *ibid.*, on flowers of *Crataegus* sp., 7.05.2017, 3 ♂; Zhytomyr Reg.: Bila Krynytsia env., 50.65N 29.46E, Teteriv River floodplain, 31.05.2015, 1 ♂; Kyiv Reg.: Kodra env., 50.63N 29.49E, mixed forest, 30–31.05.2015,

Figs 17–18. Abdomens of *Eristalis* females: 17 — *E. obscura*, 18 — *E. picea*.

1 ♀; Potashnia env.: 50.71N 29.74E, Tal River floodplain, 21.05.2015, 1 ♂, 2 ♀; ibid., 50.69N 29.70E, clearing in the mixed forest, 23.04.2016, 5 ♂, 1 ♀; ibid., 50.71N 29.73E, road in the mixed forest, 9.05.2016, 1 ♂, 1 ♀; Kyiv: Irpin env., 50.50N 30.28E, edge of the mixed forest along railway, on flowers of *Physocarpus opulifolia*, 3.06.2015, 2 ♀, 2.06.2016, 1 ♂; Kotsiubynske env., 50.47N 30.30E, clearing in the mixed forest, 17.04.2016, 2 ♂, 13.05.2016, 1 ♂, 1 ♀; Lisnyky env., 50.29N 30.54E, road in deciduous forest, 28.04.2016, 1 ♂, 1 ♀ (A. Prokhorov leg.).

Additional material. Russia: Moscow Reg.: Tabolovo, 55.915N 36.049E, 16.06.2016, in the garden on flowers of *Physocarpus* sp., 1 ♀ (A. Prokhorov leg.).

Discussion

E. obscura distributed in “northern Norway, Sweden and Finland south to the Netherlands; central Germany (Rheinland-Palatinate), European parts of Russia and eastwards through most of Siberia; Nearctic” (Speight, 2016); also south to Czech Republic, Slovakia (Holinka & Mazánek, 1997), Ukraine (Anikina, 1965; etc.) and Romania (Brădescu, 1991). At the same time *E. picea* is much less widespread species: “Fennoscandia south to central France; from Belgium eastwards into central Europe as far as Switzerland and probably Austria”

(Speight, 2016). Although even earlier mentioned the material from Russia (Hippa et al., 2001). In Palaearctic Catalogue of Syrphidae (Peck, 1988) this species recorded only from Sweden and Finland. Our material from Ukraine and Russia significantly expands the range of species, and *E. picea* is authentically recorded from Ukraine for the first time.

The most closely related Ukrainian species to *E. picea* is *E. obscura*. We think that the absence of any information about *E. picea* in Ukraine is due to the fact that it was not distinguished from *E. obscura*. To recognition the males of *E. obscura* and *E. picea* have been used for *E. obscura*: «Face narrow, at maximum width narrower than the width of an eye at the level of the antennal sockets» (Speight & Sarthou, 2016). However, this is an erroneous statement (see figs 9–10). On our opinion it is more convenient to compare the width of the face with the distance from upper edge of mouth to lower edge of antennal sockets. This ratio can be used to distinguish the females also. The most stable features for the separation of both species are the width of the face and gena, dark marking on male wings and hairs on female tergite 3. Below we present the key to *E. picea* and *E. obscura* modified from Hippa et al. (2001) and Speight (2016).

Key to males

- 1 Face width (at the level of the facial tubercle) does not exceed the distance from upper edge of mouth to lower edge of antennal sockets (fig. 9). Genae narrow (the shortest distance between ventral rim of the eyes and edge of the buccal cavity does not exceed the length of the basitarsus 1) (fig. 11). Eyes usually with pale brown hairs. Wings without dark marking in the middle (fig. 1). Scutellum usually with pale and black hairs (fig. 3). *E. obscura*
- Face width always exceed the distance from upper edge of mouth to lower edge of antennal sockets (fig. 13). Genae broad (the shortest distance between ventral rim of the eyes and edge of the buccal cavity always exceed the length of the basitarsus 1) (fig. 15). Eyes usually with hairs dark brown to black. Wings with weak but distinct dark marking in the middle (fig. 5). Scutellum with pale hairs (single hairs may be present) (fig. 7). *E. picea*

Key to females

- 1 Black hairs on tergite 3 short and recumbent (black hairs on tergite 4 less recumbent); hairs in the middle of the scutellum straight and shorter than half the median length of the scutellum (fig. 17). Mesoscutum more or less lustrous. Vertex at the inner angles of the eyes shining. Face width (at the level of the facial tubercle) does not exceed the distance from upper edge of mouth to lower edge of antennal sockets (fig. 10). Genae narrow (the shortest distance between ventral rim of the eyes and edge of the buccal cavity does not exceed the length of the basitarsus 1) (fig. 12). *E. obscura*
- Black hairs on tergites 3 and 4 long and upstanding; hairs in the middle of the scutellum wavy and longer than half the median length of the scutellum (fig. 17). Mesoscutum rather dull. Vertex at the inner angles of the eyes more or less dull (only small patch may be shining). Face width always exceed the distance from upper edge of mouth to lower edge of antennal sockets (fig. 14). Genae broad (the shortest distance between ventral rim of the eyes and edge of the buccal cavity always exceed the length of the basitarsus 1) (fig. 16). *E. picea*

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